Issue

The Wisconsin Enterprise Architecture Team (WEAT) has been requested to provide the State of Wisconsin, Chief Information Officer (CIO) with a recommendation for an operating system to support the installation of Oracle Collaboration Server (OCS) as a centralized electronic mail platform. The CIO has stated that he is not interested in a specific hardware recommendation to accompany a recommendation for operating system software.

Sources

- Oracle's bid response to the State of Wisconsin's Request for Proposal (RFP) for an electronic mail consolidation solution.
- Email from Werner Gade regarding Oracle's RFP document and Oracle's comments regarding operating system and hardware configuration options from the vendor conference
- Oracle's Collaboration Server web site http://otn.oracle.com/documentation/collab.html
- Sun Microsystems Oracle Collaboration Server support web site http://www.sun.com/third-party/global/oracle/collaborationsuite/index.html

Unknowns

1. Number of agencies using Unix in a production environment. Specifically which flavor, for what application (s), length of time in production and level of Full Time Equivalent (FTE) staff with expertise in Unix support.
2. Number of agencies using Linux in a production environment. Specifically which flavor, for what application (s), length of time in production and level of Full Time Equivalent (FTE) staff with expertise in Linux support.
3. Number of agencies using Oracle relational data base management system (RDBMS), what is the supporting server operating system, length of time in production and level of Full Time Equivalent (FTE) staff with expertise in supporting an server operating system for an Oracle RDBMS.

Options

According to Oracle it appears that the following operating system and hardware choices are available (note these are not listed in order of preference):

- Sun SPARC 32-bit: Solaris
- Intel: Windows
- HP 9000 PA-RISC: HP-UX
- Intel: Linux
- IBM Power: AIX

When weighing options for an operating system selection to support Oracle Collaboration server several factors should be considered, including:

- Total Cost of Ownership (TCO), this should include standard TCO items[1] as well as, the potential for shared application services in a consolidated server environment.
- Existing state deployments and expertise as this would affect the cost of migration to Oracle Collaboration Server and ongoing support activities.
- Vendor relationship and support for the selected operating system as a cooperative vendor relationship can have a positive influence upon a technical project's outcomes.

Of the choices, that the vendor supports, the Intel/Windows platform appears to be the least suitable:

- Of the available platforms, it provides the fewest open standards. It appears to be the least good match against the Enterprise Architecture Principles.
- The State already has significant Oracle deployments on the supported Unix platforms.
- Risk:
    - It does not appear to be in common use by users of OCS, thus increasing risk.
    - It does not appear to be a "platform of choice" by the vendor, also increasing risk.

Intel/Linux is a possible choice for the application component, but probably not the Oracle RDBMS component. If we presume that the state will use one of the other Unix platforms to support Oracle in a general consolidated server environment, Intel/Linux is probably not a suitable choice for the Oracle RDMBS component required by OCS.

Whether or not Intel/Linux is a suitable choice for the application component of OCS would require additional information – in particular, the number of servers the OCS application itself would require on an Intel platform. As that number grows, the suitability declines. Intel platforms are generally not as scalable as the other Unix platforms, though the cost per system is significantly lower. If one or two Intel processor systems can support the load, than Intel/Linux would be an attractive choice for the application component. That suitability declines rapidly as the number of systems required to support the load increases.

Of the three suitable Unix platforms: Sun SPARC Solaris, HP PA-RISC HP-UX and IBM Power AIX, all have system management advantages, and higher cost

[1] A TCO analysis should include many things, among them: initial cost, support costs (for hardware, OS and OCS), staff impact, support / ongoing maintenance and migration.

per system. However, they are more scalable, more manageable, and more robust than the Intel processor based systems. All of these vendors provide system and operating system architectures, which have significant advantages in supporting highly available RDBMS environments (i. e. such as Oracle).

Hardware Configuration Considerations

It is important to note that for any of the possible operating system selections, except for Linux / Windows, the operating system selection and hardware configuration selection are linked. Linux (i.e. like Windows) on Intel is supported on most any Intel server based hardware configurations from any of the major Intel server vendors.

We would need to explore further with Oracle the ability to share a Linux Oracle RDBMS installation for email with other enterprise RDBMS needs. As we would need to consider the OCS/Oracle deployment in the context of Oracle and relationships with these vendors, including volume purchasing for these platforms for *both* OCS and Oracle data bases in general, and supportability for the entire environment. Really the issue here is the difference between the cost for (possibly) multiple boxes rather than the cost for (possibly) fewer, larger more expensive boxes for the Unix alternatives.

Recommendation

Our recommendation for an operating system would be a Unix platform to support OCS. In lieu of comprehensive information regarding deployments of HP-UX, AIX, and Solaris, information from several executive branch agencies and county members of WEAT has been used to develop our final recommendation. This information seems to indicate that HP-UX has a significant share of deployments and a presence within the extended enterprise of Wisconsin State government. Furthermore, where HP-UX is deployed organizations report a high satisfaction with the product and vendor support. Therefore, HP-UX is a logical ‘first-cut’ selection for an operating system to support the enterprise’s installation of OCS.